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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/826,479

04/16/2004

Eiki Matsuo

B-4460PCTDIV3

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08/06/2004

EXAMINER

STULTZ, JESSICA T

Richard P. Berg

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ART UNIT

PAPER NUMBER

2873

DATE MAILED: 08/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/826,479	Applicant(s) MATSUO, EIKI	
	Examiner Jessica T Stultz	Art Unit 2873	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-14 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 11-14 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 April 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 10/031,026.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>0404</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Double Patenting

Claims 11-14 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 11-14 of copending Application No. 10/729,320 (herein referred to as Matsuo '320) in view of Togino Patent number 6,201,648. Regarding independent claims 11-14 of the present invention, Matsuo '320 discloses an image optical system in which a plurality of light beams emerge from an image-forming device on a conjugate plane A and having a divergence angle of 10 degrees or greater made obliquely incident upon a conjugate plane B to form on the conjugate plane B an enlarged image approximately similar to an image formed by the image-forming device, the image optical system comprising the same limitations as the present invention for the first and second optical systems, wherein the first optical system has a plurality of optical elements along an axis (Claims 11-14 of Matsuo '320), but does not specifically disclose that the plurality of optical elements of the first optical system are refracting optical elements or that the second optical system includes a reflecting optical element having a free-form surface having the function of converging the plurality of light beams from the image-forming device. Togino teaches of an optical display device including a plurality of refracting optical elements for the purpose of providing variable refraction power of the optical system (Column 54, lines 31-54, wherein the optical system has variable reflecting optical components, Figures 56) and a reflecting optical element, specifically a mirror, having a free-form, i.e. rotationally asymmetric, surface which is used to converge light rays from a light source for the purpose of using a single reflecting surface to convert a divergent bundle of rays (Column 57, lines 13-37, wherein the rotationally asymmetric surface "58"

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converges light rays from light source "57", Figures 69-70). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made for the image optical system of Matsuo '320 to further include the plurality of optical elements of the first optical system are refracting optical elements or that the second optical system includes a reflecting optical element having a free-form surface having the function of converging the plurality of light beams from the image-forming device since Togino teaches of an optical display device including a plurality of refracting optical elements for the purpose of providing variable refraction power of the optical system and a reflecting optical element, specifically a mirror, having a free-form, i.e. rotationally asymmetric, surface which is used to converge light rays from a light source for the purpose of using a single reflecting surface to convert a divergent bundle of rays.

Claims 11-14 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 11-14 of copending Application No. 10/729,437 (herein referred to as Matsuo '437) in view of Togino Patent number 6,201,648. Regarding independent claims 11-14 of the present invention, Matsuo '437 discloses an image optical system in which a plurality of light beams emerge from an image-forming device on a conjugate plane A and having a divergence angle of 10 degrees or greater made obliquely incident upon a conjugate plane B to form on the conjugate plane B an enlarged image approximately similar to an image formed by the image-forming device, the image optical system comprising the same limitations as the present invention for the first and second optical systems (Claims 11-14 of Matsuo '437), but does not specifically disclose that the first optical system include a plurality of optical elements having a common axis or that the second optical

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system includes a reflecting optical element having a free-form surface and having the function of converging the plurality of light beams from the image-forming device. Togino teaches of an optical display device including a plurality of refracting optical elements for the purpose of providing variable refraction power of the optical system (Column 54, lines 31-54, wherein the optical system has variable reflecting optical components, Figures 56) and a reflecting optical display device wherein a free-form, i.e. rotationally asymmetric surface of a mirror is used to converge light rays from a light source for the purpose of using a single reflecting surface to convert a divergent bundle of rays (Column 57, lines 13-37, wherein the rotationally asymmetric surface “58” converges light rays from light source “57”, Figures 69-70). In addition, Matsuo ‘437 teaches of an optical element in the first optical system having a free-form surface for the purpose of converging the plurality of light beams emerging from the image-forming device (Claims 11-14). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made for the image optical system of Matsuo ‘437 to further include the first optical system include a plurality of optical elements having a common axis or that the second optical system includes a reflecting optical element having a free-form surface and having the function of converging the plurality of light beams from the image-forming device since Togino teaches of an optical display device including a plurality of refracting optical elements for the purpose of providing variable refraction power of the optical system and a reflecting optical display device wherein a free-form, i.e. rotationally asymmetric surface of a mirror is used to converge light rays from a light source for the purpose of using a single reflecting surface to convert a divergent bundle of rays and since Matsuo ‘437 teaches of an

optical element in the first optical system having a free-form surface for the purpose of converging the plurality of light beams emerging from the image-forming device.

This is a provisional obviousness-type double patenting rejection.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Drawings

Figures 24-46 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Allowable Subject Matter

The following is an examiner's statement of reasons for allowable subject matter: none of the prior art alone or in combination disclose or teach of the claimed combination of limitations to warrant a rejection under 35 USC 102 or 103.

Specifically regarding independent claims 11-14, none of the prior art alone or in combination disclose or teach of an image optical system including first and second optical system each having an optical axis, specifically wherein the image optical system satisfies the claimed relationships.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Tanitsu, Sasaya et al, and Matsugu et al are cited as being some similar structure to the claimed invention.

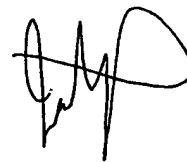
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jessica T Stultz whose telephone number is (571) 272-2339. The examiner can normally be reached on M-F 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on 571-272-2328. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jessica Stultz
Patent Examiner
AU 2873
August 3, 2004



JORDAN SCHWARTZ
PRIMARY EXAMINER